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MEMOIR

TO ACCOMPANY A

MILITARY MAP

OF

THE PENINSULA OF

FLORIDA,

SOUTH OF TAMPA BAY,

COMPILED BY

LIEUT. J. C. IVES, TOPOGL. ENGINEERS,

UNDER THE GENERAL DIRECTION OF

CAPT. A. A. HUMPHREYS, TOPOGL. ENGINEERS,

BY ORDER OF THE

HON. JEFFERSON DAVIS, SECRETARY OF WAR,

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INTRODUCTORY REMARKS.

A CONSIDERABLE portion of the State of Florida, south of Tampa Bay, is a comparatively unknown region. Its natural features oppose great obstacles to the prosecution of surveys and explorations; and, although many have been from time to time accomplished under the direction of different commanding officers of the troops stationed there, the results have not all been connected, nor embodied into an available form. Sketches of the country have been made, undoubtedly in all cases, by officers who have accompanied the examinations, and these have subsequently been compiled, and, where authority was given for it, published. The maps thus furnished have, however, been necessarily constructed upon a scale too small to exhibit more than the general features of the country, and the lines traversed have been plotted from surveys made either without instruments or with those of the roughest description. The written reports, which would give more specific and complete details and supply information that the surface of a map could not, have rarely been published, and have existed only in the archives of the department. They could not therefore be made available to officers in the field, and would be, under any circumstances, difficult to refer to; for, many of them relating to expeditions undertaken for other objects than the exploration of the country, the material collected, at different

times, in regard to the topography, would be scattered throughout numerous and extended reports, embracing other subjects, and covering a long interval of time. As a large portion of the region is submerged during some seasons of the year, trails and other local marks are soon obliterated; and, when new troops have been ordered into the country, they have been obliged to purchase the knowledge, possessed by their predecessors, with a fresh expenditure of time, hardship and danger. Extensive reconnoissances were made along the coast and in the interior, during the years 1841 and 1842, at which time the south-eastern and south-western shores, the Everglades, the Big Cypress Swamp, Lake Okeechobee, and the adjacent region, were traversed in various directions by officers of the army and navy, and much accomplished towards the topographical development of the State. Many similar explorations, some of them attended with great difficulties, have been recently made, under the direction of Cols. MUNROE and BROWN, Second Artillery, by the officers of their commands. Most of these have appeared to be over an unexamined country, though a comparison of the reports and sketches with those that were made in 1842 shows that some of the routes passed over at the two periods must have been nearly identical. Had the parties last in the field possessed, in a form suitable for reference, all of the information gathered by those who preceded them, their labors would probably have been much lightened.

During the compilation of the accompanying map, a number of reports, made by the officers above referred to, have been obtained from the Adjutant General's Department, and it has been thought desirable, from the considerations mentioned, to extract the topographical information contained in them, and to present it in a connected form. Such material as could be procured from other reliable sources has been appended. The short time allowed for the work has precluded anything like a thorough investigation as to what is now known of the region in question; those facts only

being presented which were at hand or could without delay be collected. For convenience of reference and to conform as nearly as possible to the original reports, the lines of communication referred to in them have been separately taken up, and in connection with these is mentioned whatever could be learned concerning the adjacent localities. The country considered being, for the greater part, a flat expanse, where the prairie of one day may at another be converted into a lake, and where the lakes, rivers, swamps and hammocks are subjected to such changes as can be produced by an additional layer of water of a depth sometimes as great as three feet, all statements relating to its surface are liable at times to considerable modifications.

INLAND ROUTE FROM FORT CAPRON TO FORT JUPITER.*

Fort Capron is situated on the west bank of *Indian River*, opposite to Indian River Inlet. The site of the post is upon hard ground, a few feet above the surface of the water. The Inlet is open. The bar at its mouth can be crossed by vessels whose draught is not greater than four and a half feet. The location is a healthy one at all seasons of the year. Half a mile back from the Fort runs a small ridge, its general

*This route was traversed and reported upon by Maj. Prince, U. S. A., in 1854 and by Lieut. Hill, First Artillery, in 1855. The description of it here given is an abridgment of the two reports; the former of which was obtained from the records of the U. S. Coast Survey, and the latter from the Adjutant General's Department, U. S. A.

direction being nearly parallel to the line of the coast, extending northward to the head of Indian River, and south almost to *St. Lucie Point*, at the junction of St. Lucie River with St. Lucie Sound. To this place, about twenty-three miles below Fort Capron, the river is a straight reach of water, varying in width from one to three miles, exposed to the wind, and navigable for full four feet draught. Four miles and a half from Fort Capron, the ridge above referred to comes to the water, forming a bank, twenty feet in height, which is the site of *Fort Pierce*. The growth on the shore, between the two forts, is pine. South of the latter post the ridge is covered with hammock growth, and, two miles below, rises to the height of forty feet, where is the old *Indian Garden*. Along the ridge, in this vicinity, are a few dwelling houses: the inhabitants of these, with the light house keeper at Cape Canaveral, are the only settlers upon the coast, from the canal, ninety miles above Fort Capron, to the *Miami River*, more than a hundred miles below.

Nine miles south of the Indian Garden, there is a high point of the ridge, which is bare and dotted with patches of white sand, ("bleach yard,") and, two miles below, at *Mount Elizabeth*, pine growth again appears upon the shore; the ridge receding towards the *St. Lucie River*. Between Mount Elizabeth and Fort Pierce, it borders the river, forming a steep high bank, covered with cabbage, palmetto, and other hammock growth. Along the top is a narrow strip of cultivable ground, from which there is a rapid descent, inland, to an open country, covered with flagponds, savannas, sawgrass, marshes, and palmetto flats, with a few scattered pines.

From Fort Capron, the beach on the inside is remarkably serrated, and lined with high mangroves that shut out the view towards the ocean.

The St. Lucie flows between banks formed of coquina*

* A concrete of shells.

rocks and rising about six feet above the water's edge. Along these is a growth of palmettos, and the neighborhood is a famous resort for turkies and the manatee.

Upon leaving St. Lucie point two openings present themselves. The one to the left is that which is to be followed; being the entrance to the *Jupiter Narrows*. This entrance is opposite to *Gilbert's Bar*, which is now closed, as there is little more than one foot of water upon it at the highest tides. Following the channel somewhat over a mile, it opens into a bay three-quarters of a mile broad, and about two miles in length; the western shore of which must be coasted till a narrow opening, not exceeding twenty feet in width, is perceived. This bayou continues but a short distance before it is joined by another, somewhat wider, from the right.

The Narrows are exceedingly tortuous, winding in large bends through swamps grown up with lofty mangroves full sixty feet in height, whose branches nearly meet from the opposite sides of the stream. The water is of considerable depth, and the current strong, setting either way with the wind, the prevailing direction of which along this portion of the coast, for six months of the year, is south east. The Narrows extend about six miles, terminating at *Hobe Sound*. At this point lies an extensive oyster bed, that precludes the passage of boats drawing more than three feet.

Hobe Sound is skirted on the west by high hills covered with oak scrub, while the beach that borders the opposite side is a thick hammock that extends four and a half miles to the south. Where the hammock ends, there is a narrow place in the sound, occasioned by a sharp point of mangroves which puts out from the west shore from near the base of a hill, sixty feet in height, that rises rapidly from the water. This place is called *Couch's bar*, and the greatest depth of water upon it is about three feet.

The Sound is sufficiently exposed to the wind to admit of the use of sails, and in most places is easily navigated by vessels of four feet draught. It extends for eight miles to

Jupiter River, from the mouth of which it is about two and a half miles to the site of *Fort Jupiter*.

The total distance from Fort Capron to Fort Jupiter, is about forty miles. The Mackinac boats, sometimes employed upon this route, are said to be unsuitable for the transportation of troops and supplies between the two posts; having to lay by during a hard wind, and under the most favorable circumstances requiring four days to accomplish the trip. The kind of vessel recommended, as likely to be most serviceable, is a small sloop, not drawing over three feet when loaded, and made after the pattern of the old surf boats, used, during the Mexican war, at Vera Cruz.

INLAND ROUTES FROM FORT JUPITER TO FORT LAUDERDALE.*

Old Fort Jupiter stands upon the southern shore of Jupiter River, about three miles from the bar at the mouth of the Inlet. It is upon the western point, formed by the junction of Jupiter River and *Jones's Creek*, a stream that rises three or four miles to the south. The land in the immediate vicinity is grown up with thick scrub, and is bare of timber. The back country is a high pine region, through which the

* The information here given is taken from a journal kept by Lieut. Humphreys, Topographical Engineers, while passing over the line, in company with Capt. Wade's command, in 1841. The description of the localities in the immediate neighborhood of Fort Jupiter, is from the reports, already referred to, of Major Prince, and Lieut. Hill, First Artillery.

old road to Fort Von Swearingen may still be distinctly traced. Half a mile distant from the old Fort, upon the eastern point made by the creek and river, is the new post, now called Fort Jupiter. Here the pine land is still more elevated, and continues so for five miles back; the timber coming down to the water's edge, and the water itself being of sufficient depth for small boats, close in to the shore. Abundance of wood, suitable for building purposes, can be conveniently obtained. The soil is fertile. There is an excellent anchorage, and a good place for loading and unloading boats, making the site of the present Fort preferable to that of the old one, or any other location in the vicinity.

Objections exist to it now as a military position, from the fact that the Inlet is closed, and the post rendered inaccessible, from the sea, to the smallest coasting vessels. The closing of the inlet causes the locality—at other times salubrious —to be an unhealthy one; the water on the inside of the bar then becoming fresh, and inducing a rapid growth of vegetable matter, which, decaying, taints the atmosphere and engenders disease. The alternate opening and closing of this inlet is somewhat remarkable. Between the years 1840 and 1844, it was closed. At the latter period, Capt. Davis, the mail carrier from Fort Capron to Cape Florida, endeavored, with a party of four men, to excavate a channel. After digging for several hours, they succeeded by nightfall in starting outward a stream of water four inches in depth. Upon this they desisted from labor and went to their camp, which was some fifty feet from the ditch. The river inside was unusually high, from a freshet in the everglades, and a strong north wind was blowing. At night, the sleeping party were awakened by a flood of water, and had to abandon their camp equipage and run for their lives, barely escaping being carried out to sea. The next day there was a channel nearly a quarter of a mile wide, and the rush of water could be traced far out upon the ocean.

The inlet stayed open till 1847, when it closed till 1853,

during which year it opened itself, but remained in that condition only a short time. In 1855, Maj. Haskin, First Artillery, in command of the post, endeavored again to clear the channel. Sand hills of considerable size, which had accumulated, were cut through, and the attempt would doubtless have been successful but for the low condition of the water during that unusually dry year. A small amount of labor expended under favorable circumstances would, in all probability, effectually open this inlet, and render the harbor one of the best upon the eastern coast. At times it has admitted vessels drawing eight feet, and the entrance is protected from north winds by a ledge of rocks.

Two inland water routes have been explored, between Forts Jupiter and Lauderdale; one, very near to the coast, and the other, some miles towards the interior. These were traversed, during the month of December, 1841, by Capt. Wade, with a command of eighty men. Both of the routes leave Jupiter River by *Lake Worth creek*, the mouth of which is a mile and a half below the post. This stream, like most of the rivers in Florida, is exceedingly crooked, and, where it empties into Jupiter River, is one hundred yards wide, and several feet in depth. It runs almost due north, with a strong current. Pine barren lines either bank for five miles, when on the east side a growth of sawgrass commences, extending to the sea shore, which is about two miles distant. On the west the pine barren continues, but recedes a quarter of a mile back from the creek, which, at this place, is only forty feet wide.

Two miles higher up, the two routes to Fort Lauderdale diverge. The stream being no longer navigable—except at very high water, when there is sometimes a practicable chan- as far as Lake Worth—it is necessary, in following the *coast route*, to pull the boats three-quarters of a mile in a southeasterly direction, through a sawgrass pond, to a haulover, four hundred yards across, which leads to the head of the

lake. Over this haulover, Capt. Wade's command, with seventeen canoes, was three hours in passing.

Lake Worth is a pretty sheet of water, about twenty miles long and three quarters of a mile in width; bounded on the west by pine barren, and on the east by the sand hills of the beach, which are sometimes twelve or fifteen feet in height, and covered with cabbage trees, wild figs, mangroves, saw palmettos, &c., with here and there a variety of the cactus. In the centre of the lake, a mile and a half from the head, is an island, bearing a tree resembling the wild fig in appearance, with a fruit like the olive in shape and size, of a yellow color when ripe, and used by the Indians as food. A delicate running vine is also here found, yielding a vegetable about three quarters of an inch long, with a flavour similar to that of the cucumber. Opposite to the middle of the island is a haulover, only eighty yards across, descending twelve feet to the sea, at an angle of forty-five degrees. Two miles and a half beyond is another haulover, one hundred yards in width. Below, along the eastern border of the Lake, are long strips of cultivable ground about two hundred yards wide, separated from the beach by ponds and wet prairie. These were formerly tilled by the Indians, who had large villages in the neighborhood. The soil is light, but very rich, being almost entirely vegetable mould. Rock occasionally makes its appearance on the surface, and heaps of sea shells are strewn here and there. The country on the west side would afford fine grazing.

Six miles from the last haulover, on the west side of the Lake, is Chachi's landing. A broad trail, half a mile in length, formerly led from this place over a spruce scrub towards the villages of the Indians whose gardens were upon the opposite side of Lake Worth, which they reached by hauling their canoes over the trail. The last fields were five miles from the foot of the Lake. A small creek forms the outlet at the southern point; along which, at ordinary stages of the water, boats can be paddled for only a quarter of a mile. They can

then be pushed along the creek to its head, half a mile beyond, where commences a sawgrass marsh through which they have to be hauled. Half a mile of hauling brings to a small clump of palmettos that can be seen for some miles and serves for a landmark. Another mile through the sawgrass conducts to a lagoon along which boats may be paddled for a third of a mile; the lagoon widening into a little pond that is only a hundred and fifty yards distant from the sea. The ground rises abruptly twelve or fifteen feet and then descends rapidly to the surf. Under the mould which is but a few inches deep, there is rock, three or four feet thick; in one place ruptured, forming a cave of twenty feet front, and extending back fifteen feet; the bottom covered with water. Palmettos of enormous size and Spanish bayonets grow in the vicinity. Near by is an old haulover, used by the Indians in moving from Lake Worth to gather *Koontee** which grows in abundance on the pine barren to the west. A narrow sluggish sort of creek, five feet deep, extends from the pond for a quarter of a mile, over which distance canoes may be pushed. More than a mile of sawgrass marsh is then to be traversed before reaching the *Little Hillsboro.*

The head of this creek is very narrow: wide enough to allow a canoe to lie in it, but not to be turned around. The banks are eighteen inches high, formed of snail shells and black mould. The prairie is three quarters of a mile wide and covered with thick grass. Canoes have to be pushed along for a mile and a quarter, when the stream becomes sufficiently wide to admit of paddling. A quarter of a mile below is *Orange Grove Haulover.* A small mound marks the spot, and among the trees that grow in the neighborhood are a few wild oranges which give the place its name. The distance to the sea is about three hundred yards.

It required five days of hard labor for the eighty men in

* A vegetable somewhat resembling a large parsnip, from which, when it is reduced to a pulp and washed, a substance like arrow root is obtained. The juice is said to have poisonous properties.

Capt. Wade's command to haul their seventeen canoes from the foot of Lake Worth to Orange Grove Haulover; the whole distance being but six miles. Twenty men were needed, in some places, to pull a single canoe. In the saw-grass marshes they would sink into the soft mud a foot deep at every step, and sometimes up to their middles; the matted grass interposing an additional and even more troublesome obstacle to their progress.

For two miles from the haulover the Little Hillsboro winds through the prairie; the width of the stream increasing gradually from seven to fifty feet. To the east grow palmettos, mangroves and wild figs, and on the west there is a pine barren, with palmettos and occasional thickets. A belt of mangroves, one hundred feet broad, with openings to the pine country behind, then skirts the western bank for five miles. The river opens twice into small lakes, and increases in width to one hundred feet, when it joins *Boca Ratones.*

This sheet of water is a mile and a half wide and three quarters of a mile long. The sand bank which separates it from the sea is, in one place, only a hundred yards wide. Here there was once an inlet. The timbers of a ship lie buried in what was formerly the channel. It is said by the Indians that many years ago a wrecked vessel drifted on to the bar, and, being left there by the receding tide, formed a nucleus about which the sand collected and closed the mouth of the river.

The creek that forms the southern outlet from Boca Ratones is twenty feet wide; mangroves growing along the banks, whose pendant roots obstruct, to some extent, the passage of boats; which, as the creek narrows, have to be finally hauled for a distance of two and a half miles along a small and very crooked channel. This conducts to the north branch of the *Hillsboro*, a stream fifty feet broad, lined with mangroves, and increasing in size to its mouth, five miles distant, where it is about a quarter of a mile in width.

Hillsboro Inlet runs south for a mile; leaving a ridge of

sand, three hundred feet wide, between it and the Ocean. It narrows very much towards the entrance, affording a passage for row-boats only. The depth of water on the bar at low tide is about two feet. Five hundred yards from the bar the river can generally be forded; the water being three feet in depth. A third of a mile from the mouth a small creek comes in from the south. For nearly half a mile its sides are lined with mangroves; the stream gradually narrowing from thirty to twenty feet, and running between banks two feet in height. A mile and a half beyond is the head, and here it is so narrow as scarcely to afford room for the passage of a canoe. A grassy prairie, a mile wide and two miles and a half long, sometimes dry and sometimes with a few inches of water upon it, leads to the head of another small creek. Pine barren still continues upon the western side. At a distance of three miles the creek enters into *New River*, on the eastern side of which—four miles distant—is the site of Fort Lauderdale.

The *second inland water route* from Fort Jupiter to Fort Lauderdale, as has been already stated, diverges from the one just described, at the point where the latter leaves Lake Worth Creek. An extensive sawgrass pond or marsh extends from this place, twelve and a-half miles south, to Chachi's Village, which is a mile and a-half west of Lake Worth. Lagoons of deep water, covered with spatterdocks, are here and there to be met with. In many places, canoes have to be pushed and hauled, but at others the water expands into grassy lakes, a quarter of a mile in extent, and generally from one to two miles apart. To the east can be seen a growth of spruce with some pines, and to the west, a line of cypress bordering the pine barren back of it. Capt. Wade's command were two days in going from Fort Jupiter to Chachi's Village. The site of this is upon a pretty island, bounded on the north and east by a deep clear pond half a mile wide, and between a mile and a-half and two miles long. On the west and south it is surrounded by the grassy lake.

The trail to Lake Worth leads, a third of a mile, to a small pond, a quarter of a mile across, on the opposite side of which is the haulover. Westward, a trail runs from the village to the swamp bordering the Everglades, the eastern boundary of the former being about seven miles distant. Capt. Wade's command examined this trail at a time when the water was rather low, and did not attempt to take the canoes over, as it would have been necessary to haul them a mile and a-half over perfectly dry and rather rough ground. There were indications that it had been frequently traversed in boats during high water. The grassy lake was followed by the exploring party two miles and a half to the northwest. For the last quarter of a mile the water was but a few inches deep. A dry pine barren, more than a mile across, through which runs the wagon-road from Fort Jupiter to Fort Lauderdale, forms the boundary of the lake. Beyond this is a small pond, and an eighth of a mile further a string of them, deep enough to paddle in, and generally not more than forty feet apart. At the end of half a mile the water again overspreads the surface of the ground to the depth of two feet; dotted with small islands of cypress and pine.

Leaving Chachi's Village, and travelling six miles a little east of south through the grassy lake, where the water continues about two feet in depth, the pine barren to the west is again encountered at a point where the lake makes into it for a short distance. Turning to the west, at the end of a mile of alternate water and dry land, a series of ponds is arrived at. When the water is high, canoes can cross to the Everglades at this place without difficulty. At ordinary stages of the water, some of the haulovers between the ponds are three hundred feet across; others not more than forty or fifty, and the ponds themselves, at such times, too short to admit of canoes being paddled in them. The labor of hauling is excessive. Five miles beyond, there is a belt of cypress marsh, three hundred yards wide, with plenty of water, but

requiring the constant use of the axe to clear a passage for canoes. An open space of a hundred yards then leads to a broad boat-trail through a thin cypress growth. This continues, four miles, to a kind of haulover, where the cypress trees are of large size, and there is no water at most seasons of the year. This haulover, which is but four hundred yards in width, Capt. Wade's men were five hours in crossing; sinking sometimes several feet into the soft red mud, and having to cut a way through the cypress roots and branches, which, in a tangled mass, obstructed the way and endangered the safety of the canoes. A mile beyond the haulover the Everglades commence. The route continues about thirty-five miles along the eastern border to the head of *Snook Creek*, which may be followed to Fort Lauderdale. Capt. Wade was two days in reaching the fort after entering the Everglades.

At very high stages of the water, many of the difficulties met with in examining the two routes now mentioned would be obviated, but it is not probable that, under any circumstances, either would be selected, were the object merely to pass from one post to the other. The mail is carried from Fort Jupiter to Cape Florida, down the strand; the intervening waters being crossed on rafts when too deep for wading. Small parties can follow the beach in this way during some seasons of the year, but it would not be a practicable route for the transportation of troops or supplies. The only one available for this purpose is the wagon-road already alluded to. This road was opened many years ago. It follows the pine barren, which extends almost uninterruptedly, a few miles from the coast, from Fort Jupiter to *Key Biscayne Bay*. No itinerary of the route has been met with.

ROUTE FROM FORT LAUDERDALE TO FORT DALLAS.

Old Fort Lauderdale is on the right bank of the west branch of *New River*, a little more than a mile from its mouth. The branch rises in the Everglades five or six miles to the west of the Fort, and runs nearly east through cypress and pine barren. Part of the way it flows between steep rocky banks. Its average depth is about four feet. It is forty feet wide at its source, and about one hundred yards wide at its junction with the main river. Opposite this place, on the sand bar which separates New River from the ocean and which is but a few hundred yards wide, is the site of *Fort Lauderdale.* The location is healthy at all seasons. It can be approached by small vessels. When formerly occupied by troops it received supplies by a haulover from the Atlantic. The ordinary mode of communication between Forts Lauderdale and Dallas is by water. New River, opposite to the former post, is about three hundred yards wide and four or five feet deep. It runs parallel to the coast, in most places only four or five hundred yards from it. The water upon the bar at low tide is but little over two feet in depth. From thence to Fort Dallas by sea it is about twenty three miles.

A wagon road, a few miles inland, is laid down upon some sketches of the vicinity. It leaves the west branch of New River at the site of the old Fort, and runs nearly parallel to the coast, passing to the west of a sawgrass marsh which extends some miles to the south. It follows, throughout its whole extent, a dry belt of country grown up with pine, palmetto, and koontee, and crosses three streams; the Boca Ratones, *Arch Creek*—which is spanned by a natural bridge—and *Little River*. The whole distance by land, from Fort Lauderdale to Fort Dallas, is about twenty five miles.

ROUTES FROM FORT DALLAS TO THE WESTERN BORDER OF THE EVERGLADES.

Fort Dallas is situated on the north side of *Miami River*, at its mouth. Its excellent harbor and salubrity render the location a good one, and, as a military position, it is one of the most important in the state. The country in the immediate vicinity, along the coast and towards the interior, between Key Biscayne Bay and the Everglades, is a great resort of the Indians. It furnishes a large portion of their supply of koontee, and is one of their favorite hunting grounds; besides being the only place where they can pursue a contraband trade. It is the starting point of most of the trails which lead to the western border of the Everglades, and to the Indian settlements in the Big Cypress Swamp.

Ascending the Miami River two miles and a half to where it forks, and then keeping up the southern branch two miles further, a place is arrived at, called *Adams' Landing*, which is upon the eastern edge of the Everglades.

The Everglades of Florida cover an area of about four thousand square miles; embracing more than one half of the portion of the State south of Lake Okeechobee. The subsoil of this vast region is coralline limestone. Upon the surface of this, which is very rough and irregular, lies an immense accumulation of sand, alluvial deposits, and decayed vegetable matter; forming a mass of quicksand and soft mud, from three to ten feet or more in depth, that overspreads all but a few points of the first stratum. Upon the mud rests a sheet of water, the depth varying with the conformation of the bottom; but seldom, at dry seasons, greater than three feet. The whole is filled with a rank growth of coarse and tough grass, from eight to ten feet high, having a sharp ser-

rated edge like a saw, from which it obtains its name of sawgrass. In many portions of the Everglades this sawgrass is so thick as to be impenetrable, but is intersected by numerous narrow and tortuous channels that form a kind of labyrinth, where outlets present themselves in every direction; most of them, however, terminating, at longer or shorter distances, in an impassable barrier of grass, mud and quicksand. The surface water is quickly affected by rains; the alternate rising and falling during wet seasons being very rapid. The difference of level between the highest and lowest stages of water is from two to three feet. The general surface of the Everglades is therefore subject to great changes; the character of marshy lake or mud-flat predominating according to the wetness or dryness of the season. It is probable that, sometimes, more than one half of the surface has no water upon it. Besides the mud islands, small keys are here and there met with which are dry at all seasons. Upon these the soil is very rich. There are many such, undoubtedly, that are often made the sites of Indian gardens. In some places, they will be grown up with bushes, appearing in the distance like a continuous wood, and occasionally there are clumps of pine, cabbage palmetto, cypress, and live oak.

In the year 1855 Capt. Dawson, First Artillery, made two explorations into the Everglades. The first was undertaken during the month of March, which is one of the dryest of the year; June and October being ordinarily the rainy months. After leaving Adams' landing, the water at first was very shallow, but, in five miles, increased in depth to twenty inches, so that the canoes could be poled along instead of being dragged. The general direction was west, though the route was extremely winding and circuitous, so much so that at one time when the leading canoe was nearly a mile in advance of the rear one by the trail, it was only fifty yards distant from it in a direct line. At the end of eighteen miles it was found that the usual course to the western side was impracticable, and an attempt was made to go around towards the south.

During the latter part of the second day, long mud banks were encountered, in which the men sank to their middles while dragging their boats. The course through the intervening ponds was greatly obstructed by fungi, clumps of trees and bushes, and innumerable keys could be seen in all directions; the ground everywhere, however, being boggy and wet. The third day, the water became in many places too shoal to float the canoes; the breaks between the ponds were of greater extent, and the men were annoyed by the sawgrass cutting their feet and limbs while forcing a way along. On the fourth day all of the difficulties increased; breaks occurring two or three hundred yards in length, grown up with old sawgrass, and without water. The ponds were but a few yards across and filled with fungi. The keys were smaller, lower, and fewer in number. At the end of the day the command had reached a point forty-three miles by the trail, and twenty-seven and a half miles in a direct line, from Adams' landing, when all progress was barred by a sea of tall sawgrass, extending as far as the eye could reach; occasional small keys being seen, but no water.

A second exploration by Capt. Dawson was undertaken during the month of June, at which time the surface water was more than a foot deeper than before. After six days of difficult and laborious exertion he succeeded in attaining a point a few miles north-east of *Prophet's Landing*, where further advance was stopped by the want of water. The edge of the Big Cypress was approached to within three miles, but it was impossible to get any nearer. The distance in a direct line from Fort Dallas to the place where the party turned back was fifty-three miles. By the trail it was estimated to be one hundred and twenty miles. For *eighteen miles* of this distance, the canoes had to be dragged through the mud and sawgrass.

In December, 1841, the command of Major Childs crossed, in four days, from Fort Dallas to Prophet's and Waxy Hadjo's landing, and afterwards recrossed the Everglades to

Fort Lauderdale in about the same time. The first line passed over was undoubtedly the same as that traversed by Capt. Dawson, but no such obstacles were encountered as were experienced by the latter. There appears to have been at that time a passage for canoes without having to resort to hauling. The Indian guide who accompanied Capt. Dawson stated that the country was greatly changed since he had crossed it sixteen years before, and that the keys were larger and more numerous. Settlers, who have resided upon the Miami River for ten or twelve years, assert that the gradual filling up of the Everglades has been very perceptible. It would be reasonable to infer from the nature of the country that this must have been the case. The filling up appears to have been greatest towards the north and west; the southeastern portions always containing most water. The late examinations would seem to establish the fact that, at present, during dry seasons, the Everglades are impassable. Only during high stages of the water would it be possible to cross. Even then the passage would be attended with great difficulties.

It has been suggested that a direct route for canoes might be cut, through the sawgrass and mud banks, from Fort Dallas to one of the western landings of the Everglades, which would make it possible to pass, at ordinary seasons, from one place to the other, besides shortening the travelling distance some sixty-five miles. It has not yet been proved, however, whether such an undertaking would be practicable; or, even could it be accomplished, whether—considering the rapid growth of vegetable matter—the improvement would be at all permanent.

ROUTES THROUGH THE BIG CYPRESS SWAMP.*

Much of the country in the vicinity of the *Big Cypress Swamp* possesses similar features to it, and has been, upon nearly all of the maps, included within its boundary. The region in question derives its importance from the fact that it has for a long period been a principal seat of operations against the Seminole Indians, to whom, its peculiar advantages for subsistence, concealment and defence, render it a favorite resort. It forms the western boundary of the Ever glades as far north as *Waxy Hadjo's Landing*, from which place it runs north-west and west to within six miles of the *Okoloacoochee;* extending then south-east to *Assunwah's Town*, and thence in an irregular line, south of south-west, to a point four miles south-east of *Bowlegs' Old Town;* thence nearly west, crossing the Okoloacoochee, to *Old Fort Foster*, and from there, west south-west, nearly to the coast. There is considerable cypress growth in the adjoining swampy land excluded by this boundary, but it does not predominate. Between the Okoloacoochee and the north-western limit of the swamp, the country is prairie, dotted over in the southern part with pine islands, and, in the northern, with clumps of maple and swamp-ash bushes, with occasional cabbage and live oak. In the distance, these resemble a continuous line of cypress swamp, but can be distinguished from it—in winter—by their light greyish color; cypress having a reddish tinge, and—in summer—by the deeper shade of the green of the bushes. Pine can easily be detected among others by its very deep shade of green.

* This region was traversed and explored in every direction by Major Hays and Lieut. Hartsuff, 2nd. Artillery, during the early part of the year 1855. The information here given in regard to it has been obtained from the reports of these officers.

The north-east corner of the swamp, from a line running west from *Fort Shackelford*, till it meets one running south from *Old Depot No.* 2, is quite open, containing one large and several small prairies. Along the line running south are large numbers of live oak hammocks, many of which have been cultivated. They are all small; few being more than one or two acres in extent, and none exceeding five. Cabbage-trees are abundant. The country is comparatively high, and is altogether admirably adapted to the Indians. It is so open that wagons can be driven anywhere in it during the dry season, but in the wet season it is covered with water and the ground is boggy. South of the line running west, the cypress is more dense, and the land lower: the open spaces are less frequent and not above high water. Wagons can be taken in only a few places, and to short distances south. Packmules can traverse the southern portion of it during dry seasons, but even then with much labor and difficulty. At wet seasons it is totally impassable. Concerning the southern and south-western part of the Big Cypress, little is known; few exploring parties having ever passed through it. It is probable that most of it is impracticable, even for the Indians, at all seasons of the year. Over the northern and north-eastern part, Indian trails run in all directions and to every field, garden and hedge. Whenever, in the course of explorations, these trails have been deviated from, great difficulties or impassable obstacles have been encountered.

The Okoloacoochee, already referred to, is a long continuous kind of marsh or wet prairie, heading a few miles southeast of Fort Thompson, varying in width from a few hundred yards to two or three miles, and running in a general southerly direction to near the southern edge of the Big Cypress. For the first few miles the character of wet prairie predominates. For the next twelve, to the point where Capt. Ker's route crosses it, it is a succession of boggy marshes, small lakes, lily ponds, cypress swamps, cabbage

and oak hammocks, connected, and entirely impassable, even at dry seasons, for man or horse. Between Capt. Ker's route and Fort Keais, after passing through a cypress swamp one or two miles in extent, it becomes a low wet marsh bordered in places by maple and swamp ash. From Fort Keais south, as far as it has been explored, its banks are lined by dense cypress extending some distance back on either side. There is no practicable channel north of Fort Keais, excepting a short one in the swamp already alluded to. There are but two crossing places; one at the intersection of Capt. Ker's route, where the Okoloacoochee is very narrow, and the other about five miles farther south.

A mile from the former crossing, in a grove of pines, is the site of *Fort Simon Drum*. Routes diverge from this post to almost every part of the Big Cypress. Their general character is so much the same as scarcely to require a special description. The three principal roads, from which most of the others branch, lead to Fort Shackelford, to Temporary Depot No. 1, and to old Fort Foster or Temporary Depot No. 2.*

The first of these (Capt. Ker's route) can be traversed by wagons as far as Fort Shackelford, during the dry season; places being occasionally met with that are boggy and somewhat difficult to cross. Oak and pine islands are seen about six miles to the north of the road; often appearing in the distance like an unbroken line of forest. Fort Shackelford was built in 1855. The blockhouse is situated upon a pine island one mile from Waxy Hadjo's landing, near the edge of the Everglades, and just within the swamp. The country to the south and southwest has been much and recently occupied by Indians. Some of the villages are quite large.

* No traces of old Fort Foster have been discovered during late explorations, but a comparison of the old with recent maps and reports would seem to prove that the sites of these two forts must be very near to each other, if not identical.

Sam Jones's—three miles and a half west southwest—containing twenty huts, and Fustenuggee Chopko's—five miles and a half south—double that number. This last village is on a pine island, and occupies one of the highest points of ground that has been found in the whole swamp. The approaches to it are difficult. It cannot be reached at all with wagons, and only with great trouble by packmules. There are other villages of good size not far distant. The time and labor required to explore southwest from Fort Shackelford caused the post to be abandoned, as unsuitable for operations in that vicinity. An attempt was made to follow south, along the edge of the Big Cypress, between it and the Everglades, but boggy marshes and dense cypress barred all progress in that direction.

The road from Fort Simon Drum to Temporary Depot No. 1, leads in a southerly direction along the edge of the Okoloacoochee, for nearly four miles, to the crossing, and thence eastwardly, over a portion of the country not included within the limits of the Big Cypress. This is prairie, interspersed with small hammocks, and entirely covered with water at wet seasons; the southern portion being a succession of marshes and ponds. Wagons, during the dry season, can go as far as the Depot. In an ordinarily wet season, the crossing of the Okoloacoochee, and of some of the ponds to be met with during the latter part of the distance, would be difficult. Unless the water were very high packmules might be brought to Bowlegs' Town, which is three miles beyond the Depot in a southeasterly direction. Farther south than this a Depot could not be established. The cypress swamp near by and to the north of this vicinity is quite dense, though it is nowhere continuous. Patches of prairie, clumps of pine, cabbage and oak, and brush hammocks are scattered throughout its whole extent. At certain seasons it is almost entirely submerged. The country west of Bowlegs' Town does not appear to have been recently inhabited by Indians.

From Fort Simon Drum to Temporary Depot No. 2, the road leads through prairie, pine barren and strips of cypress swamp. It is rendered crooked by avoiding different obstructions, but can be easily traversed with wagons during the dry season. Several trails are laid down upon the old maps, leading south and southwest from the Depot to *Malco River*, but the recent attempts to explore in this direction have not been successful; perhaps owing to the higher state of the water in the swamps. Two positions in the neighborhood of the Depot are designated as good sites for posts; one, four miles northeast of it, and the other, four miles north, on the road to Fort Simon Drum, between the head of the Cypress swamp which extends to the south, and the extensive prairie which commences three hundred yards distant, and reaches north to *Choalapulka.*

There are certain obstacles to a campaign in the Big Cypress at all times. In the pine woods, the palmettos often grow so thick and large that horses cannot travel among them, nor men without great trouble; and, in the swamps, the thick cypress trees, the underbrush hammocks, and the boggy ground form equal or greater obstructions. During the dry seasons, however, operations can be conducted without important difficulties. Cavalry can operate to advantage throughout most of the region, though some of the swamps and thickets would have to be penetrated on foot. By skirting the cypress, openings can almost always be found; the rule being that where the cypress is small the ground is firm, and, on the contrary, where the trees are large, the ground is soft and boggy, and covered with thick undergrowth. Large pine trees indicate a thick growth of large palmetto, and small pine the reverse. Water can always be obtained by digging from two to six feet, and pine islands may be found in every direction at convenient distances to camp upon. Troops can march with comparative ease upon all of the well marked trails, and horses travel over without much difficulty. Off the trails it is almost impossible to go in any

direction. When saturated with water, the ground becomes either quicksand or boggy. A campaign over the Big Cypress, during the wet season, would be utterly impracticable.

For agricultural purposes the whole region may be considered worthless; the few small and scattered hammocks being the only portions susceptible of cultivation.

To the Indian it possesses valuable resources. The means of subsistence are inexhaustible. If debarred from cultivating his garden or raising stock; fish, game and fruits supply abundant food. The cabbage trees alone would yield an unfailing support. In case of hostilities and pursuit, the innumerable dense and tangled hammocks, thickets, and lily ponds, where the whole tribe might baffle the pursuit of vastly superior numbers, render the Big Cypress, as a stronghold, almost impregnable.

ROUTES FROM THE BIG CYPRESS TO THE CALOOSAHATCHEE.*

The country between the Big Cypress and the *Caloosahatchee* is principally prairie; with ponds, marshes, pine and oak islands, &c., scattered more or less thickly over its surface. This region, as well as that in the vicinity of Choalapulka, has

* From the reports of Lieut. Humphreys, Top. Engrs. and Lieut. Hartsuff, Second Artillery.

been much used by the Seminoles as a hunting ground. During late explorations, few traces of Indians have been seen. Here and there, hunting lodges have been found, but no permanent villages, nor recently cultivated fields.

A wagon road runs nearly west, across the prairie, from Fort Simon Drum; forking at a distance of about four miles from the post; the left branch leading to *Fort Myers*, and the right to *Fort Deynaud*. The former, for six miles, passes over prairie dotted with willow and pine islands; the remaining distance is through pine woods, with patches of prairie, clumps of cypress, and some willow and lily ponds. During dry seasons it is good, smooth and hard. In wet seasons it is covered with water, and the ground becomes so soft as to be entirely impracticable for wagons.

The branch to Fort Deynaud passes over a country in all respects similar to that just described.

Nine miles east of Okoloacoochee, on the road to Fort Shackelford, a wagon trail turns off north towards *Fort Thompson*. For seven miles from the point of leaving the Fort Shackelford road the country is low prairie, with numerous flag ponds; the whole boggy and impassable in the wet season. The rest of the way is through palmettos and pine islands, with patches of prairie. The pines increase in size and number till within a mile of Fort Thompson.

Seventeen miles from Fort Thompson the road passes by the remains of an old Indian town, from which a trail runs to another four miles further west. The first place would be a suitable location for a Fort; the country being high, and well timbered with pine and cypress. Palmettos grow near by in sufficient quantity for building.

The route followed by Capt. Ker, between the Caloosahatchee and the western border of the Big Cypress, is not so good as either of the roads above mentioned; a considerable portion of it being over wet prairie and soft ground.

ROUTES FROM FORT THOMPSON TO FORT MEADE.

The *Caloosahatchee* can be forded, at most seasons of the year, at a place two hundred yards east of Fort Thompson. The river at the ford is about twenty-five yards wide; flowing between abrupt limestone banks. During the dry months there are only one or two feet of water, but marks upon the trees indicate that the depth is sometimes as great as nine feet.

Two miles from the crossing the routes to Fort Meade diverge. The right hand fork follows the *Fort Center* road over the prairie as far as the *Tlathlopopkahatchee* or *Fish Eating Creek;* which, where the road strikes it, is thirty yards in width, and at low water a foot deep. In the rainy seasons the depth of the water is four or five feet. The banks are low, and on either side it is swampy for about a hundred yards. Ten miles from Fish Eating Creek, over open prairie, conducts to *Good Water*, where the road passes through five hundred yards of boggy and difficult ground. Continuing for twenty miles over prairie, sand hills, and pine country, the trail leads to a marsh of considerable extent, in which the *South Prong* of the *Big Charley Popka* takes its rise. The course from there is northeasterly, for seven miles, to *Lake Istokpoga.*

A better route, as far as this place, might be obtained by leaving the road to the right, after crossing Fish Eating Creek, and keeping a more westwardly course for ten or twelve miles, so as to pass to the west of Good Water; then to take a direct course about north ten degrees east to the

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* From a map and report of a reconnoissance by Lieut. Benson, Second Artillery.

northwest shore of the Lake. Such a route would pass over a higher and more favorable country, and avoid the boggy ground in the neighborhood of Good Water and the South Prong.

After leaving the lake, the road runs in a northwest direction for a few miles till it enters the marshy grounds between the Middle and South Prongs of the Big Charley Popka. These grounds are impassable in the wet season. In approaching the *Middle Prong* some high pine country is traversed; sand hills appearing to the right. Entering these sand hills, the route passes over a high black jack ridge, a mile or two west of a string of small lakes that connect the waters of *Lochapopka* and Istokpoga. The course is then more to the west, on the ground between the low country of the Middle Prong and the sand hills to the northeast. The country between the Middle and North Prongs is higher than that farther south. It is wooded with pine and black-jack. In the vicinity of the *North Prong* there are a few yards of boggy ground. On the north side the country is a high pine region, with some palmetto and black-jack, as far as the Fort Meade and Kissimmee road. This road is followed for five or six miles to *Bowlegs Creek*, over which there is a bridge. The ground, for some two hundred yards east of the creek, is low and boggy. To the west, as far as *Peas Creek*, the road is good; passing first over a pine and palmetto region, then over pine and black-jack, and then over a rolling country covered with deadning. Peas Creek, at the ford, is thirty yards wide, and at dry seasons four feet deep. It can be crossed there without difficulty. Upon the western bank is the site of *Fort Meade.*

The other route from Fort Thompson to Fort Meade is better and more direct. It follows the left hand fork, from the place where the road branches a short distance north of the Caloosahatchee, and keeps in a north-westwardly direction for nearly thirty miles over the *Big Prairie* to the road from Fort Meade to Fort Myers, which it follows to the former place.

ROUTE FROM FORT MEADE TO FORT MYERS.*

After leaving Peas Creek the route follows a blazed trail; crossing at a distance of three miles a small branch where the ground is boggy for a little distance. This might be turned by keeping more to the east. A mile and a half beyond is Bowlegs Creek, which, at the ford, is five or six yards wide, and at high water from five to six feet deep. At most seasons, the depth is not greater than three or three and a half feet. There are about two hundred yards of low ground bordering the creek, when a high pine and palmetto country begins and extends to the *Little Charley Popka.* Here, at dry seasons, there is no water at the ford: in rainy ones it is about six yards wide and five feet deep. The banks are sloping, and the country, for a few hundred yards south, low but not boggy. Some very high palmettos grow near by. From this place to the *Big Charley Popka,* the road passes generally through a high pine and palmetto region.

Five or six miles from the first creek, is a small lagoon containing good water. At the crossing of the Big Charley Popka the stream is twenty yards wide, and, during dry seasons, about four and a half feet deep. At high water the depth is as great as ten or twelve feet, and a good deal of care must be observed in endeavoring to cross. The banks are sloping; on the south side rather low, and fringed with live oak. The ford, at this place, is said to be the best that can be found on the creek. The ground, for three hundred yards, is low prairie. Two miles beyond is *Oak Creek,*

* From a map and report of a reconnoissance made by Lieut. Benson, 2d Artillery.

which is six yards wide, and at high water three or four feet deep. Three miles further south, is a small run where the ground is boggy for a short distance. The bog can be turned above and below the trail. The road then passes over pine and palmetto country—with occasional ponds, dry at most seasons—to the Big Prairie, from the border of which it is about twelve miles to the *Tsalopopkahatchee* or *Trout Eating Creek*. In the rainy season, the creek is five yards wide and about four feet deep, and easy to ford. In the very dry months it contains no water. The banks are covered with live oak. From this place the road passes over prairie and pine barren to the southern fork of Trout Eating Creek; five miles distant. This branch is generally dry. The country along the route is prairie for about two miles further, when a pine and palmetto region commences, and extends to the Caloosahatchee opposite *Fort Myers*.

From Bowlegs Creek to Big Prairie the route is blazed. From there, for seven miles, to the pine island, it is staked, and trenches dug in a direction parallel with the course, at intervals of three hundred yards. Passing through the west end of the pine island, the trees are blazed for a distance of two or three hundred yards. To the point of entering the pine woods south of the branch of Trout Eating Creek, twelve miles beyond, the route is staked or blazed, according as it passes over prairie or through the pines. The whole road from Fort Meade may be called a good one. Three or four creeks would require bridging, to render it practicable at all seasons. There is very little boggy country to be passed through. The distance by the trail from Fort Meade to Fort Myers is about eighty-five miles.

ROUTE FROM FORT MYERS TO FORT JUPITER.*

Fort Myers is on the south bank of the Caloosahatchee, fifteen miles from its mouth. A wagon road leads from the post to Forts Deynaud and Thompson, passing over a country, low in some places, but generally good. A better road still would be obtained by following an Indian trail that runs parallel to the wagon route, a mile or two south.

As high up the river as Fort Deynaud, the Caloosahatchee is navigable for vessels of considerable size; the depth of the channel being, in few places, as little as twelve feet. Four miles above Fort Myers, the river narrows to less than one half its former width, and a string of small islands commences, extending for two miles higher up. Just below the islands there is an extensive sand bar, upon which the water is quite shallow. The bar may be avoided by skirting the northern bank. The deepest part of the channel lies on this side of the river, and, in passing the islands, it is a good rule to keep them all to the south. For five miles above the islands, the banks on both sides are very low and lined with a thick grove of mangroves, and, on the north side, some cabbage palmettos. The nature of the country then suddenly changes, and, for the remainder of the distance to Fort Deynaud, the river flows between steep banks from five to ten feet in height, covered with cabbage palmettos, cypress, live oak, and pine, with a very rank growth of saw palmettos.

* The information in regard to the Caloosahatchee River, and the portion of the route between this river and the mouth of Fish Eating Creek, is taken from the reports of Lieuts. Hartsuff, Vincent, and Weed, 2d Artillery—that in regard to Lake Okeechobee, from the reports and maps of Lieut. Gunnison, Topographical Engineers, and Capt. Allen and Lieut. Benson, Second Artillery. The description of the country east of Lake Okeechobee, is from a report by Lieut. Haines, 2d Artillery.

Eighteen miles above Fort Myers, on the north side, is a point where a landing may be effected. The place furnishes a good camp ground. The water loses its brackish taste, and the current is more rapid than it is below. Between the islands and Fort Deynaud, the river is exceedingly crooked, and, at some points, where the direction suddenly changes bars have been formed at the elbows. The channel, however, can be readily distinguished.

Many snags and other obstructions have been already removed, and an expenditure of a moderate amount of labor would make the river easily navigable, for vessels of any required size, from the mouth to Fort Deynaud.

From Fort Deynaud there is a good wagon road, which continues along the north side of the river till opposite Fort Thompson, where it turns off in a north-easterly direction over prairie—generally wet—towards Fish Eating Creek. The road, after leaving the river, crosses two or three small branches, whose banks are fringed with cabbage palmettos, brush, and a few scattering live oaks. The last pine is about eight miles from Fort Thompson, on the banks and near the head of the most northerly branch of the Caloosahatchee. Between this river and Fish Eating Creek, the larger portion of the prairie is at times submerged, and the ground almost always saturated with water. A single day's rain will cause a sensible rise in the branches, and in those places that are rather lower than the general level. Some distance before arriving at Fish Eating Creek, its course can be traced by cypress swamps, and a peculiar growth of brush and small timber. From the point of the river first seen from the road, to where the latter intersects it—three-quarters of a mile below—the south bank is fringed with scattering live oaks and a few cypress. The road strikes the river at the only point where it can be approached, and here, during the wet season, the ground would be very boggy for a quarter of a mile back from the banks. The stream at the crossing is, during low water, twenty yards wide and a foot deep; the

bottom is composed of shifting sand, which forms bars changing at every considerable rise. The channel is much obstructed by old trees. The river from this point makes a bend towards the north, and the road keeps on the south side of it, two or three miles from its banks, to avoid boggy ground, till it again strikes it near *Fort Center*, six or seven miles below, where further progress, on land, is barred by an impassable swamp.

The site of Fort Center is immediately upon the bank of the creek, upon an elevated plateau eight feet in height, and extending more than a hundred yards back to a mound thirty feet high, and about a hundred and twenty-five feet in diameter at the base; covered with a dense growth of saw palmetto. To the west is a slight depression for a hundred yards, and then higher ground extending two hundred yards further. The nearest pine in sufficient quantity for building is twelve miles distant, and there are no accessible palmettos within two miles, excepting a very few that are scattered here and there on and about the mound. The country at Fort Center is much higher and is better suited for a post than any other point near the western shore of Lake Okeechobee, but it is a sickly position and difficult of approach during the wet season.

Between the Fort and the mouth of the river, there are no obstructions excepting occasional floating masses of water lily, which can be forced aside with an oar. The stream is very crooked; from fifteen to thirty-five yards wide, and in most places more than nine feet deep at low water; nowhere less than about four feet deep. The banks are sloping and composed of dark spongy loam. They are seldom well defined, and never rise more than two feet above low water. Excepting at Fort Center, where the south bank is fringed with live oak, not a tree of any size grows upon either bank for some miles from the mouth. Below the point where the road from Fort Thompson crosses the river, there is no place

where it can be approached on horseback, excepting on the southern side, at Fort Center. At high water, nearly the entire country, for miles on either side, is completely submerged.

Across the mouth of the river is a compact sand bar, over which boats drawing between three and four feet can cross, at the lowest stages of the water, to Lake Okeechobee.

Lake Okeechobee presents a superficies of nearly twelve hundred square miles. Its average depth at low water is about twelve feet. The surrounding country is but little above its surface, and is mostly submerged during the wet season, when the water in the lake rises, sometimes, three feet above the ordinary level. From near the mouth of Fish Eating Creek, around north as far as *Cohancy Bay*, the lake is bordered by a bar of white sand: at low water, from ten to thirty feet wide, and from one to four feet in height. Back of this is a hammock, about a hundred yards across, and, behind this, a swamp varying in width from five hundred yards to two or three miles. From Cohancy Bay to Cypress Point, the bar and hammock continue the same, but the swamp is replaced by sawgrass marsh, a narrow tongue from the Everglades running as far north as this place.* From Cypress Point around towards the south and south-west the shore is much less clearly defined. The Everglades form the general boundary, but no distinct line marks the division between this region and the surface of the lake: the southern portion of the latter being much grown up with grass. Two or three points of the south and west shores have high sandy beaches for a mile or two. There are several outlets near the southern end: some of these at the mouth are forty or fifty yards wide and several feet deep, but are navigable for only a few hundred yards, on account of the tangled weeds. At the extreme southern point, there is one eighty yards in width and navigable for half a mile.

* It would appear from some of the reports that the sawgrass extends north of Cohancy Bay, but the detailed maps of the Land Office represent the contrary.

The *Kissimmee River* is the largest and most important of the streams that have their outlet in Lake Okeechobee. It receives the drainage of a considerable extent of country, and establishes a communication, for vessels of small size, between the lake and the region for a hundred miles north of it. It empties into a little bay at the northern extremity of the lake. The sand bar at the entrance to this bay can be crossed at low water by vessels of six feet draught.*

A growth of cypress, more or less dense, extends almost entirely around the lake, along or near its shore. There are also occasional ash and palmetto trees; the latter being more numerous in the neighborhood of *Fort McRae* than at any other point. At this place also the beach is higher and wider than elsewhere; a portion of it not being subject to overflow during high stages of the water.

The lake may be traversed with canoes when the surface is smooth. In passing from Fort Center to the eastern shore—the distance across, which is more than forty-two miles, being too great for a single day's row—two courses may be taken; one towards the northern edge, where places to camp upon can be found along the beach, and the other towards *Observation Island*, which is fourteen miles southeast from the mouth of Fish Eating Creek. This island is high and covered with large trees. The ground is dry, and the place a good one for a camp.

The only continuous route between the eastern shore of

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* This river and the lakes near its head have been explored and reported upon by Lieut. Benson, Second Artillery. From the mouth to Lake Kissimmee, the channel is exceedingly tortuous. At ordinary stages of the water the width of the stream varies from nine to fifty yards; the depth from four to sixteen feet, and the current from half a mile to three miles per hour. The banks are generally from three to five feet high, fringed with live oak, maple, cabbage, palmetto, and elder; and the country, a few yards back, low and boggy. The only eligible sites for posts are the locations of Forts Kissimmee and Basinger, and a point on the west bank, a few miles below the latter place. Boats to be employed on this river should not be more than sixty or seventy feet long, nor of greater draught than three or four feet. The only pine wood that can be obtained is in the neighborhood of Fort Basinger. Lakes Kissimmee and Cypress and the strait connecting them are navigable in all places for vessels of four feet draught.

Lake Okeechobee and Fort Jupiter, that has been traversed and reported upon, leads nearly west from Fort McRae to *General Eustis' Road*, and along that road to the Fort. The trail passes over the hammock that borders the beach; here a hundred yards wide. This hammock can be passed on foot by wading from one cypress root to another, and making use of the dead branches of trees. The marsh beyond is about a mile and a-half wide, having the same character as the Everglades; the sawgrass being six feet in height; the water of variable depth, and the mud so soft that a pole can be thrust down with the hand to a depth of from six to ten feet. This marsh can be crossed only at dry seasons, and then with great difficulty, by men on foot, though unincumbered by arms or burdens of any description. East of the marsh, the route, for five miles, passes over a low pine country, with occasional ponds and marshes that can be easily turned. It then crosses another difficult marsh, a quarter of a mile wide. From surveys that have been made in the vicinity it appears that this marsh might be avoided by keeping a mile or two to the north. A high pine and palmetto region then commences; continuing as far as the point where the trail from the lake intersects *General Eustis' route*. This route traverses a low and somewhat marshy country, but a road practicable for wagons, during a greater portion if not all of the year, could be easily constructed upon it.

The old bridge at the crossing of the *Locha Hatchee* being now impracticable, it is necessary to ford the stream at a place half a mile above. The crossing is bad; the bottom being muddy and banks boggy. The depth of water is between three and four feet. A bridge thirty yards in length, with a causeway of a hundred yards at each end, would be required to make the road a good one.

The present site of Fort Jupiter being to the east of *Jones' Creek*, the new road leaves the old trail to the left and crosses the creek at a point three miles south of Fort Jupiter.

The crossing is easy, and the remainder of the distance over a good country.

Should it be considered desirable at any time to establish a line of communication across this portion of the State, the route just discussed possesses, in many respects, important advantages. The travelling distance by it, from coast to coast, is about one hundred and fifty miles, and of this distance nearly one hundred miles can be traversed by vessels of considerable size, at all seasons. A tolerable wagon road, that would be practicable, for the transportation of troops and supplies, during the greater part if not the whole of the year, could be made without difficulty, over all but a mile or two of the remaining distance. The sawgrass marsh along the eastern shore of Lake Okeechobee interposes, for a mile and a-half, an obstacle that it would require a vast deal of time, labor, and expense to surmount. During the establishment of the block-house at Fort McRae, this marsh was examined as far north as Cohaney Bay, and found to be impracticable below that point. The maps of the Land Office indicate that farther north the difficulties would not be so great, and the Surveyor-General of Florida has furnished information in regard to the strip of country in question, that would seem to show that a wagon road might be made to cross at certain points with a comparatively small amount of trouble. An assistant to the Surveyor-General, Mr. Reyes, has explored in this vicinity, and reports that there would be no difficulty in getting a road to the lake at either of three points; at Cohaney Bay, or at places seven miles and twelve miles respectively farther north. For eighteen miles along the shore, the beach is firm sand, being similar to the Atlantic opposite St. Augustine. Cohaney Bay has plenty of water, and is a good shelter for boats or vessels in any storm. Mr. Reyes is of opinion that it would require much less labor to make a causeway here than was expended opposite to Fort Kissimmee, by General Twiggs' command, in 1840, in making a crossing there. The causeway at Fort

Kissimmee is, for about nine hundred yards, through soft marsh. At this place he thinks that the marsh would be less than five hundred yards across, and some of it firm.

It has been strongly recommended by officers who have served in this part of Florida, that a small steamer should be employed upon Lake Okeechobee, in case operations are to be conducted in its neighborhood. The parts of such a vessel might be readily transported up the Caloosahatchee and across the country to Fort Center, where they could be put together and launched.

The necessity of suspending movements upon the lake during rough weather; its exposure to sudden storms, and the few places of shelter afforded, render canoes and small boats somewhat inefficient. At all times they are necessarily slow, and their use attended with much labor and fatigue. It is evident, from the numerous traces of Indian camps and vestiges of canoes found along the shores of the lake and upon the banks of the Kissimmee river, that this route is a favorite one with the Seminoles in passing from their haunts in the Big Cypress and the Everglades to the regions north of the Okeechobee. A vessel that could command this extensive sheet of water would interfere with these movements of the Indians, and considerably narrow their field of operations.

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